

UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY

FOREST INSECT INVESTIGATIONS

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Insect Control, D-1
(Annual Report, 1925)

February 1st, 1926.

ANNUAL INSECT CONTROL REPORT

SEASON 1925.

January 15th, 1926.

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Insect Control, D-1.
(Annual Report)

ANNUAL INSECT CONTROL REPORT-DISTRICT 1.

1. CONDITIONS AS REFLECTED BY FOREST REPORTS:

Though this is only the second year that the reports from the different forests have been called for the results obtained are very promising. The 1925 reports are far more complete than the 1924, and it is indeed very gratifying to note the increased interest towards this phase of forestry which is being shown by the supervisors and rangers. Due to the value of these reports in securing prompt attention to all incipient outbreaks of destructive forest insects, as well as determining the status of the situation throughout the District, it has been decided to have these reports submitted annually. Note book sheets giving a brief discussion of the important forest insects were prepared and distributed to all field men. It is hoped that these proved to be of some service and it is planned to furnish additional information from time to time.

A summary of these reports has been prepared in tabulated form, a copy being attached to this report. Ranger reports were received on sixty five (65) areas where there was no infestation, or it was of such a character that their inclusion in the summary was not warranted.

O U T L I N E

INSECT CONTROL REPORT - DISTRICT ONE

SEASON - 1925.

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Sixty-eight reports were tabulated on some of which more than one insect was recorded. The status of the infestation on these areas is as follows:-

Mountain pine beetle

Increasing	15
Balanced	13
Decreasing	<u>9</u>
Total	37

Douglas fir beetle

Increasing	7
Balanced	7
Decreasing	<u>1</u>
Total	15

Western pine beetle

Increasing	-
Balanced	1
Decreasing	<u>11</u>
Total	12

Spruce budworm

Increasing	3
Balanced	1
Decreasing	<u>4</u>
Total	8

Pine Butterfly

Increasing	-
Balanced	-
Decreasing	<u>1</u>
Total	1

The most serious infestations of the mountain pine beetle in lodgepole pine are those reported from the Beaverhead, Bitterroot and Deerlodge National Forests. This is especially true on the Bitterroot where the losses amount to several thousand trees per section. How-

ever increasing infestations of this insect in lodgepole were also reported from the Nezperce, Jefferson, and Kootenai Forests.

Increasing infestations of the mountain pine beetle in the white pine stands of the St. Joe and Kaniksu forests were reported but were not believed to be alarming. On the Nezperce and Bitterroot increasing outbreaks of the Douglas fir beetle were recorded and control measures recommended for the latter forest. Though on the Nezperce, Beaverhead, and Helena Forests, spruce budworm outbreaks were reported as increasing, it is believed that throughout the District the general epidemic is decreasing. On the Madison Forest the needle tyer epidemic is reported to be increasing. Expert examination of specific areas were requested on the Nezperce, Bitterroot and Deerlodge forests.

In general there seems to be little change in the condition which existed in 1924.

II. CHARACTER OF 1925 INFESTATION

The 1925 infestation consisted of *Dendroctonus* killing in lodgepole pine, white pine, yellow pine, and Douglas fir. The killing of mature white fir and alpine fir by *Scolytus* sps. continues throughout the District. During the 1925 season large quantities of yellow pine reproduction and small diameter trees were killed by *Ips*. Defoliation by the spruce budworm still continues in a few regions and the damage to lodgepole by the needle tyer is still going on at West Yellowstone.

III. ACTIVITIES OF THE 1925 SEASON

A. SURVEYS CARRIED OUT IN COOPERATION WITH BUREAU OF ENTOMOLOGY.

1. Helena National Forest.

During May an examination was made of the Hunters Gulch area where in 1923 control measures were instituted against an outbreak of the mountain pine beetle in lodgepole. At the time of this examination no 1924 attacked trees were found, though undoubtedly the beetles were present unless they have been eliminated from the area.

2. Bitterroot and Beaverhead National Forests.

During August and September a survey was made of the areas in advance of the heavy Bitterroot infestation which included the Big Hole Basin in the Beaverhead. Twelve hundred dollars were allotted by the Forest Service for this work which was under the supervision of the Bureau of Entomology. This survey was necessary in order to determine the extent of the Bitterroot infestation, and to secure a foundation upon which to base control measures for 1926.

3. Kootenai National Forest.

During September an examination of outbreaks of the mountain pine beetle in the white pine stands of the Pete and Meadow Creek drainages was made. This examination was made for the purpose of determining the present status of the infestation, and the relationship which existed between the Pete Creek situation and the outbreak in the lodgepole pine stands some few miles to the north, in order that the proper recommendations for control measures could be made. Due to the extensive brown-

ing of the needles as a results of the severe winter killing of December 1924, it was practically impossible to secure data relative to the extent or status of the infestation, but it was rather clearly decided that there was no physical connections between the white pine and lodgepole pine infestations.

B. CONTROL PROJECES

1. Helena National Forest.

In the spring of 1925 control measures were instituted in the Magpie drainage in order to reduce a small outbreak of the mountain pine beetle in a mature lodgepole pine stand. The infestation in this area started at the same time as that in the Hunters Gulch region where control work was instituted in 1923. This region however, was left as a check against the Hunters Gulch control project, and where the first years control work resulted in a reduction of approximately ninety-four per cent the infestation in the Magpie region increased several hundred. A one hundred per cent clean up of the Magpie infestation was attempted, 435 trees being treated at a cost of \$1.32 per tree. A final report of this project has not been received but it is expected that very satisfactory results will be obtained. Funds for this project were provided by the Forest Service.

2. Coeur d'Alene National Forest

The Independence Creek experimental project was instituted in 1924 to test the economics of yearly maintenance control and the possi-

bility of exterminating the beetles from an area by intensive control. In accordance with the plans of this experiment control measures were again instituted in this area in May 1925. At that time nineteen trees, containing 18,980 b.f., were treated at a total cost of four and one tenths cents per acre. As a result of the 1924 control work the infestation was reduced 62%, and as control measures were instituted at a time when the infestation was increasing the results obtained were very gratifying. Funds for this project amounting to \$145.00 were provided by the Forest Service.

3. Bitterroot National Forest.

Rather late in the spring of 1925 a plan of control was inaugurated in the hopes that the spread of the mountain pine beetle epidemic, which existed on the east fork of the Bitterroot River could be prevented. This plan included the treatment of the infested trees in the Big Hole Basin, which is just across the Continental Divide from the Bitterroot infestation, in order to prevent an occurrence of the epidemic in that region. During May and June some eight thousand (8000) lodgepole pine and one hundred and seventy five (175) yellow pine, were treated at a cost of approximately eight thousand five hundred dollars (\$8500.00).

From the survey made during the summer it was found that the extremely small per cent of the infested trees which it had been possible to treat during the operation, had had no appreciable effect in checking the spread of the epidemic. During August the beetles from the large untreated areas swept across the zones of defense infesting thousands upon

thousands of trees. In this spread, or flight, the insects apparently crossed the Continental Divide at the head of the Meadow Creek drainage and are rather firmly established in the Big Hole Basin at this time.

IV. PLANS FOR SEASON OF 1926.

1. Independence Creek Project.

It is planned to continue the control work on this area for at least three more years. Two hundred and fifty dollars (\$250.00) have been requested and allotted for this work in 1926.

2. Bitterroot, Beaverhead, and Deerlodge National Forests.

A plan of control which can best be called a holding plan of defense has been adopted for this infestation. This plan calls for the treatment of all infested trees in the Big Hole Basin, which lies on the east side of the Continental Divide within the Beaverhead and Deerlodge forests, and in a new zone of defense in the Bitterroot forest which includes the Tolan and Mink creek drainages. It is possible that the work will be confined to the Big Hole Basin. It will be necessary to continue this project for several years or until the infestation in the rear has died down or passed by. This project has been planned on an experimental basis for the holding of these defensive zones will undoubtedly prove to be a difficult undertaking. It is realized that should the entire force of the Bitterroot epidemic, or even a large per cent of it, sweep into these defensive zones the rather small per cent of the entire infestation which will be treated each year will have little effect upon its reduction. Seventeen thousand dollars (\$17000.00) have been requested for this project.

3. Kootenai National Forest.

Control measures have been recommended for the outbreak of the mountain pine beetle in the white pine stands of Pete Creek. This project is adopted as it is the most threatening attack within the white pine belt. There are thirty three (33) million board feet of white pine in the Pete Creek drainage and some thirty four (34) million on adjacent areas. Though it is realized that this outbreak may voluntarily die down, it is believed that incipient infestations of this character should be controlled as soon as possible as they may be the beginning of a general epidemic. The estimate of two thousand dollars to cover the costs of this work is a very rough one but was the best which could be secured under the circumstances.

V. ESTIMATES FOR FISCAL YEAR 1927.

A. SURVEYS

It will be necessary to conduct a rather extensive survey of the Bitterroot, Beaverhead, and Deerlodge control project during the months of August and September 1926. This will be necessary in order to determine the status of the infestation in the defensive zones in order to properly plan the following seasons work. It is believed that this survey should be sufficiently intensive so that the infested trees within the zones can be marked for treatment at that time. By following this method which was tested on the Bitterroot during the summer of 1925, a more accurate knowledge of the funds which will be required for control work can be secured and the cost and inconvenience of spotting the infested trees during the next seasons control operation would be elimina-


ted. It is thought that an estimate of funds necessary for this survey could best be made after the close of the control operation.

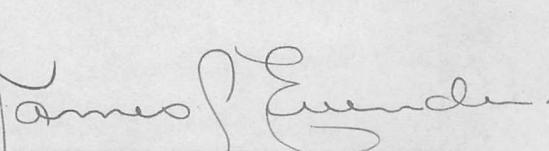
In the event of control measures being instituted, a small allotment will also be necessary for an examination of the Pete Creek infestation on the Kootenai Forest.

A small allotment may be necessary to provide for the expenses of Bureau of Entomology men while an examinations requested by the Forest Service.

B. CONTROL WORK

It would be impossible at this time to give an estimate of the funds which will be required for control work in the spring of 1927.


Assistant District Forester
Office of Forest Management


Associate Entomologist
Bureau of Entomology.

Approved: February 1st, 1926.


District Forester.

Location	Destination of Area	Species Infested	Timber Type	Range or Elevation	Infesting Insect	Countenance	Age and Diameter Breadth High	Increasing Decreasing	Control Recommended	Ownership	Inquiry's Remarks	Supervisor's Remarks
Dearborn	Deho Lake	Lodgepole	Lodgepole spruce	6500	D. monticolae	Groups (av. 10)	200 yrs. 10"	Increasing	Yes	Government	Summer home site. "Should be cleared for."	
	Big Hole	Lodgepole	Lodgepole					-			No new attacks since bug work 1925.	
	Yellow, Pike Park, Cold and Blow Creeks	L.P., Y.P.	L.P., Y.P., D.P.	6000-7000	D. monticolae	Groups (Av. 30)		Increasing	Yes	90% Government	Export examination is requested.	
Plethead	Upper South fork	Lodgepole	Mixed	4200-5000	D. monticolae	Groups (Av. 4)	75-90 yrs. 6-12"	Stationary	Yes	Government	Timber mature. Infestation halted.	
Holmes	-							-				Few scattered lodgepole pine killed by D. monticolae.
	Cabin Gulch	Douglas fir	Douglas fir	4800-6000	Spruce bud- worm	Groups (200 stems)	Up to 12"	Increasing	?	50% Government	2nd or 3rd attack spruce fatal. Note severe on southern slope.	Timbers which is well under control. 3rd attack of spruce plus beetle above continental divide has passed its peak. Spruce budworm situation on Deep Creek is becoming serious. Report on Douglas control is not available as yet.
	Over Creek Group	Douglas fir	Douglas fir	5500-6500	Dendrobatus	Stems	Mature 12-24"	Decreasing	No	Government	Timbers marked decrease.	
Jefferson	Blackfoot Dist.	Lodgepole	Lodgepole	4000-5000	D. monticolae	Stems & groups	90-150 yrs. 9"	Decreasing	No	90% Government		
	Upper Dry Wolf R.	Lodgepole	Lodgepole	6500-7500	D. monticolae	Groups (Av. 12)	100-150 yrs. 8-14"	Increasing	No	Government	Control is hardly warranted as only old trees are being killed.	Infested areas reported in Districts 2 and 3 are problems due to the winter kill of last December. It is not believed that the situation is serious and it is our opinion that it would be advisable to check these areas next season before recommending control. Considerable spruce budworm injury has been found, but no damage has resulted as yet.
	West Slope East Creek R.	Lodgepole	Lodgepole	6000	D. monticolae	Stems	120-160 yrs. 9"	Increasing	No	Government	Timbers have worked in this region for 15 years, could not justify control.	
Lewis & Clark	Timber Creek Oregon R.	Douglas fir	Douglas fir	6000	D. pseudotsugae	Groups (Av. 4-5)	14-16"	?	No	Government	50% of timber has been sold. Good prospect of selling remainder.	
	Head of Ten Mile	Lodgepole	Lodgepole	?	D. monticolae	Groups (Av. 15)	40-60 yrs.	Increasing	No	Government	High part of infestation lies on Blackfoot forest and has just become noticeable on Kootenai.	Upper Tenk (Pete Creek) infestation is covered under separate report.
	Reddy Cr. West fork, Cogen	Lodgepole	Lodgepole	6000	D. monticolae	Stems & groups	40-60 yrs. 8-10"	Decreasing	-	Government		Do not believe that infestation is above normal.
Deion District	Deion District	L.P., Sp. D.P.	L.P., Sp. D.P.	5000-7000	Heath Cast Pungus	Groups (Av. 50)	All ages & sizes	Decreasing	No	Government	Believed that in another year disease will disappear.	
	District #2	Heathy Lodgepole	L.P., Sp. D.P.	4500-7000	?	Stems & groups	Up to 4"	Stationary	No	Government	Too extensive.	
	Willow Creek	Lodgepole	Lodgepole	5000-6500	D. monticolae	Stems	6" to Mature	Stationary	No	Government	Believed to be normal.	
Lola	Spruce and Peapose Cr.	P.P., Sp. W.P.	Spruce fir	3500-4500	Spruce bud- worm	Solid area	All sizes	Decreasing	No	60% Government	Timber decrease in 1925.	
	Remarck Look- out	Yellow P. Lodgepole	Yellow P.	3500-4000	D. monticolae	Stems	200 years 16-24"	Increasing	-	Private	Small local condition of 20 trees.	
	Quartz	Yellow P.	Yellow P.	3000-4000	D. brevisomus	Stems & groups	Mature 20"	Stationary	No	20% Private	Infestation less than normal.	
Missoula	Marshall Doug- las & Short Cr.	Lodgepole	Lodgepole	5500-6500	D. monticolae	Stems & groups	90-120 yrs. 6-10"	Decreasing	No	90% Government	It appears to be getting lighter.	
	Monture Dist.	Lodgepole	Lodgepole		D. monticolae	Groups	110 yrs. 11"	Decreasing	No	50% Government	Now scattered new infestations.	
	Radison Basin	Lodgepole	Lodgepole	6500-7000	Heathy mistar	Stems	All sizes	Increasing	No	Government		
Hamilton	Company Gulch	Douglas fir	Douglas fir	7500	Spruce bud- worm	Stems	12-25"	Stationary	No	Government		
	Sullivan Lake	White Pine	White Pine	2700-3000	D. monticolae	Groups		Increasing	No	-	Aves will be lowered in next few years.	Insects were not particularly active during 1925.
	Lion Head Creek	White Pine	White Pine	5000	D. monticolae	Groups (Av. 10)		Increasing	No	Private and State.		